

REMARKS/ARGUMENTS

Claims 9 and 14 have been amended. Claims 2, 5-7, 9-15, 27-28, and 30-36 are pending.

The Examiner rejected claims 2, 5-7, 12, 27-28, 30-31, and 33-34 under 35 U.S.C. 103 (a) as being unpatentable over Hershkowitz et al. (U.S. Patent 5,302,205). It would not be obvious to combine the apparatus of FIG. 5 of Hershkowitz with the magnets of FIG. 3 of Hershkowitz to obtain the invention as recited in claim 2. The Examiner stated that it would have been obvious to modify the apparatus of FIG. 5 of Hershkowitz so as to dispose the plurality of magnetic elements extending substantially from a first end of the process chamber to a chuck because this is an alternative way to generate the magnetic field and enhance the plasma in the processing chamber. Nothing in Hershkowitz suggests that the magnets of FIG. 3 may be used in the device of FIG. 5. The enclosed declaration supports why the invention would not be made obvious by Hershkowitz. In addition, nothing in Hershkowitz teaches placing the magnets of FIG. 3 to form an azimuthally symmetric radial gradient, as recited in claim 2. If the bar magnets at the top of FIG. 3 are evenly spaced, then an azimuthally symmetric radial gradient would not be formed. Hershkowitz does not suggest any advantage to an azimuthally symmetric radial gradient.

In the Response to Arguments, The Examiner stated that the declaration was insufficient to over come the rejection based on Hershkowitz. The Examiner stated that there was no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. The second paragraph of page 2 of the declaration and the first paragraph of page 3 of the declaration explain that the difference between Hershkowitz and the claimed invention, and that Hershkowitz does not make obvious the azimuthally symmetric radial gradient from the magnetic configuration of FIG. 3. This part of the declaration further states that the inventor had to convince others of the advantages of the claimed invention over Hershkowitz, because these advantages were not obvious (see MPEP 716.05).

In the second paragraph of page 4 of the office action, the Examiner stated that the magnets of Hershkowitz have the claimed magnetic structure so that an azimuthally

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symmetric radial gradient will be produced by the magnetic field. As mentioned above regarding the declaration, the configuration of Hershkowitz does not necessarily provide an azimuthally symmetric radial gradient. The second paragraph of page 2 of the declaration states that "our arrangement has symmetry lacking in Hershkowitz designs." Hence, Hershkowitz does not provide the azimuthally symmetric radial gradient, as recited in claim 2. For at least these reasons, claim 2, as amended, is not made obvious by Hershkowitz.

The Examiner rejected claims 9 and 13-14 under 35 U.S.C. 103 (a) as being unpatentable over Hershkowitz as applied to claims 2, 4-7, 12, 26-31 above and further in view of Taira et al. (U.S. Patent 6,153,977).

The Examiner rejected claims 10-11 and 15 under 35 U.S.C. 103 (a) as being unpatentable over Hershkowitz and further in view of Grunenfelder (U.S. Patent 5,399,253) or Barankova et al. (WO 99/27758).

The Examiner rejected claims 32 and 35-36 under 35 U.S.C. 103 (a) as being unpatentable over Hershkowitz and further in view of Collins et al. (U.S. Patent 6,077,384).

Claims 5-7, 9-15, 27-28, and 30-36 each depend either directly or indirectly from independent claim 2, and are therefore respectfully submitted to be patentable over the art of record for at least the reasons set forth above with respect to independent claim 2. Additionally, these dependent claims require additional elements that when taken in the context of the claimed invention, further patentably distinguish the art of record.

For example, claims 9 and 14 further recite that the magnetic elements are individually contained within sleeves. Claims 9 and 14 have been amended to clearly state that each sleeve contains only a single magnetic element in response to the Examiner's comments in the Response to Arguments.

Claim 34 further recites that the ends of the magnetic elements are open. FIG. 3 does not show that the magnets that form an axially symmetric magnetic field form a magnet free opening so that magnets do not extend across the first ends or second ends of the plurality of magnetic elements. Instead, FIG.3 shows that magnets extend between the ends of the magnetic elements need. Hershkowitz would not use a coil at one end, but instead use the

confinement of secondary electrons. For at least these reasons, claims 5-7, 9-15, 27-28, and 30-36 are not anticipated or made obvious by the cited references.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number (650) 961-8300.

Respectfully submitted,
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